

WHAT IS CLAIMED IS:

1. A data store query system comprising:
a data store that includes a collection of data;
a sorted result buffer; and
a query interface operable to receive a limit and order query and to identify data in the
5 data store that satisfies the limit and order query using the sorted result buffer.
2. The data store query system of claim 1 wherein the data store is a database or
a fast cache.
- 10 3. The data store query system of claim 1 wherein the collection of data includes
a table having an attribute, and the query interface is operable to receive the limit and order
query placing order constraints on the attribute.
- 15 4. The data store query system of claim 1 wherein the query interface creates a
revised sorted result buffer in response to a modification of the limit and order query, the
modification being made during a pause in execution of the limit and order query.
- 20 5. The data store query system of claim 1 wherein the sorted result buffer is
stored in random access memory.
6. The data store query system of claim 1 wherein the query interface is operable
to receive the limit and order query formulated using standard query language (SQL).
- 25 7. The data store query system of claim 1 wherein the query interface is operable
to receive the limit and order query that requests the first or last N records satisfying the
query.
8. The data store query system of claim 1 wherein the query interface is operable
to identify data in the data store that satisfies the limit and order query using the sorted result

buffer by iteratively reformulating the limit and order query until the sorted result buffer contains data satisfying the limit and order query.

9. A method for satisfying limit and order queries including:

5 receiving a limit and order query that includes both of an order criteria and a limit criteria, the limit criteria specifying a maximum number of records for a result set of records satisfying the limit and order query;

filling a sorted result buffer with records from a data store; and

10 iteratively reformulating the limit and order query and updating the sorted result buffer until the sorted result buffer contains the result set of records satisfying the limit and order query.

10. The method of claim 9 wherein the limit and order query is specified using standard query language (SQL).

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11. The method of claim 9 wherein filling the sorted result buffer with records from the data store includes:

scanning the data store without consideration of the order criteria to identify records otherwise satisfying the limit and order query; and

20 placing identified records into the sorted result buffer until the sorted result buffer includes the maximum number of records specified by the limit criteria.

12. The method of claim 9 wherein the limit and order query requests the first N records satisfying the query, and further wherein reformulating the limit and order query includes:

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identifying a last record of the sorted result buffer; and

reformulating the limit and order query to include a search criteria requesting records occurring before the last record in the order specified by the order criteria.

13. The method of claim 9 wherein the limit and order query requests the last N records satisfying the query, and further wherein reformulating the limit and order query includes:

identifying a first record of the sorted result buffer; and

5 reformulating the limit and order query to include a search criteria requesting records occurring after the first record in the order specified by the order criteria.

14. An apparatus comprising a storage medium having instructions stored thereon, the instructions including:

10 a first code segment for obtaining a desired data set from a data store by executing a query, the query designed to return a set of data records from the data store and including a limit condition and an order condition;

a second code segment for filling a sorted result buffer with the set of data records;

a third code segment for pausing execution of the query;

15 a fourth code segment for modifying a threshold condition of the query, whereupon the first code segment resumes execution of the query and the second code segment filters the set of data records within the sorted result buffer based on the threshold condition to obtain a filtered data set; and

20 a fifth code segment for determining that the filtered data set within the sorted result buffer matches the desired data set.

15. The apparatus of claim 14 wherein the threshold condition is based on a selected data record within the set of data records

25 16. The apparatus of claim 15 wherein the threshold condition is related to a sort order associated with the desired data set, such that the query returns data records having a pre-determined relationship to the selected data record with respect to the sort order.

30 17. The apparatus of claim 15 wherein the second code segment fills the sorted result buffer by inserting a result of the query and deleting the selected data record from the sorted result buffer.

18. The apparatus of claim 17 wherein a size of the sorted result buffer remains constant and is determined based on the limit condition.

5 19. The apparatus of claim 14 wherein the first code segment executes the query be traversing rows of a data table, and the third code segment pauses execution of the query at a first row corresponding to the filling of the sorted result buffer.

10 20. The apparatus of claim 19 wherein the first code segment resumes execution of the query, after modification thereof, at a second row consecutively following the first row.

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